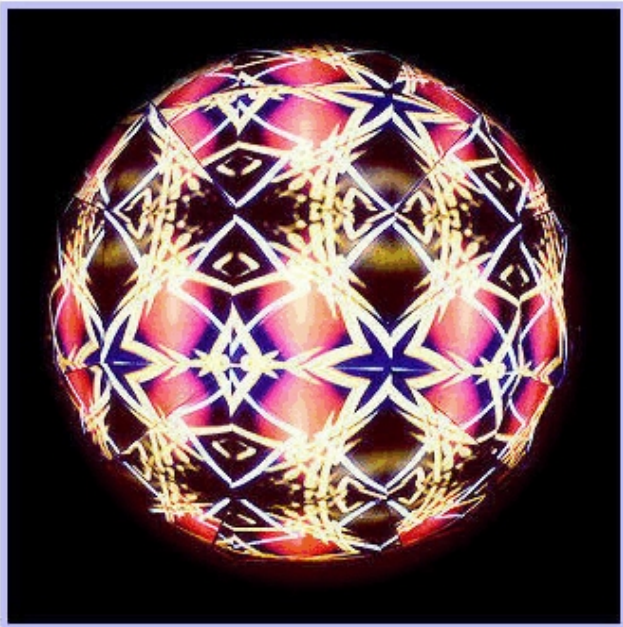


ALL YOU NEED TO KNOW **TO BUILD A VIDEOLA**



Consisting of:

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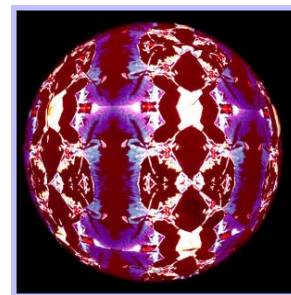
Page 15: An Essential Remembrance

Videola images by Stephen Beck and Don Hallock
Videola Photographs by Margaret d'Hamer

ALL YOU NEED TO KNOW TO BUILD A VIDEOLA: INTRODUCTION

What on Earth is a Videola anyway?

History: The Videola was a device for presenting video art imagery in a rather radically innovative format. One might think of it as an instrument, like a violin or a trombone, to be used for many forms of music - or its presentation, when compared to the conventional television screen, like a symphony compared to a minuet. The Videola was designed and built at the National Center for Experiments in Television (NCET) in San Francisco during 1972 and 1973. It then comprised a 6 week solo gallery exhibit at the San Francisco Museum of Art from September 21st to November 4th 1973, using 6 1-hour programs of pre-taped video and sound material. A concert of synthesized imagery and sound was also performed live and unrehearsed at the museum on the evening of November 6th. A smaller model was presented at the U.C. Berkeley Art Museum/Pacific Film Archive from September 14th through November 15th, 2000. The Videola produced imagery such as you see above and to the right: being a virtual 5 foot diameter sphere of continuously moving video, floating in black space.



Technically speaking: The Videola was a pyramidal kaleidoscope, measuring approximately 13 ½ feet in height, with a 14 inch square opening at what we might, conditionally, call the top. That which would ordinarily be the bottom, measuring 8 feet square, was also left completely open. This whole structure was, however, placed on its side, and its interior completely lined with very high quality mylar film mirror surfaces. A video monitor of the right size was mounted snugly against the 14 inch opening, and spectators viewed the resultant image show through the 8 foot opening at other end. Approximately 100 viewers could be accommodated at a single showing.

The whole adventure for me dated back to being six years old, and fascinated by my mother's three-mirror vanity table (you know, the kind where the two outside mirrors are hinged to close on the center one). I would sit in front of it, endlessly speculating on the infinite 'myselfes' reflected in the two side mirrors, or multiplied in curved virtual space by all three.

During the time of designing the Videola, I built many, of widely differing forms, and used them in other ways as tools in pursuing the art of video. We, at the National Center, were ultimately looking for a form which would be viewable by a whole gallery of people, and this design provided exactly the right solution for us. But what you find diagramed below is only one possibility. Videolas could be built in other configurations as well (with three mirrors, or other angles of convergence), generating images very different from these. Experiment to your heart's delight.

The Aesthetics: In a Videola exhibit, the image on the monitor is reduplicated many times from side to side, top to bottom, and corner to corner - the tapering convergence angle of the mirrors giving the final composite illusion a spherical appearance. The resultant imagery - which may be entirely electronically synthesized, produced by video feedback, derived as recognizable pictures from a camera or, most often, a mixture of all three. The video signal is in continuous movement (or should be), so that the various graphic elements are constantly appearing, kaleidoscopically, out of nowhere, and subsequently disappearing again, likewise kaleidoscopically, into themselves. Sound and musical compositions accompany (or should accompany) the video image show. Optimally, the Videola should be displayed in an almost entirely darkened gallery, though interestingly enough, the effect is so mysterious that most spectators have a very difficult time discerning what, exactly, they are seeing, even when the lights are brought up. The overall effect, that of constant, fluid change, can be quite beautiful, and very pleasantly mesmerizing.

Philosophical speculations: the cosmology of the Videola. During the times of its display in the 1970s there was some considerable discussion about whether the Videola represented a departure so different from the standard television screen (on which most video art was, and is, displayed) that it might

actually comprise a new form in itself. Some argued that, while it was intriguing, it was just a new wrinkle, not really redefining the conventional video presentation space. Yet others held that it was so different in appearance and effect that it inhabited a video-artistic category of its own.

As the Videola's creator I will advance my own sentiment, which is that the argument might be academic. I will, however, go into some detail with the following suggestion: that just as video-as-art irrevocably redefined the medium we knew as 'television,' so the Videola may have had the effect of redefining 'videospace.' (*Note: In the following paragraphs I will use the terms observer, spectator and experiencer interchangeably.*)

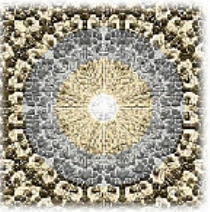
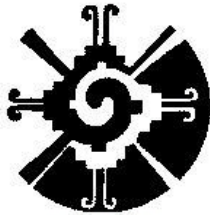
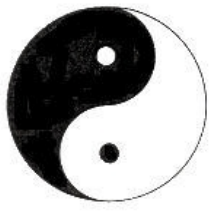
First let us consider as a given that there can be no experience without an experiencer, and then that the teachings of modern physics assert that all phenomena are indissolubly interconnected. This means that all phenomena in the universe are, in fact, only one infinitely vast phenomenon. And so, in particular, the observer and the observed actually have to be one inseparable phenomenon - observer/observed. According to physics there are no real separatenesses anywhere in the entire cosmos; the concepts of 'observer' and 'observed' being only conventions of thought and language with no absolute reality whatsoever. Further, we are told that the scientifically observed is always changed in the act of observation by the scientist. But let's not stop at that human-centered construct. It might just as well be true that any observer is changed as well by the act of observation. Of course, it must be so (since observer/observed are one phenomenon) that when either observer or observed undergoes alteration the other must as well. (This could also be a workable definition for 'interactive communication.')

To go further yet, might it be (as has been asserted by mystics for millennia) that it is only the observer that changes through the act of what we call 'experiencing,' and that all phenomena observed are only reflections of the consciousness of the observer? Unfortunately, since it is the fact that all experience is necessarily subjective (at the very least in human terms), since no two observers are identical, nor can any two observers occupy the same place in time and space, we can never know the answer to this question. Beyond that, all individual observers bring their own history, viewpoint, and beliefs to the experience of any occasion or form of communication (art, in this case). Therefore, all art objects (which are intentional forms of communication - even if only between the artist and him or her self) are different as well as interactive - at least to some degree - to everyone who encounters them. For instance, by this line of reasoning, no two people have ever read the same novel, nor has any person ever read the same novel twice. Both subject and object appear to have undergone alteration in the course of the interaction.

This, I feel, is true of all art and much more besides. But, as an example, it is especially true of abstract art (the Videola experience would probably fall under this classification) in which the message being communicated may not be identifiable as 'something' to anyone at all - sometimes even to the artist. So, I would say that "the medium is not necessarily the message," but that if skillfully addressed the medium may be capable of delivering a message. As well, the message, uniquely interpreted, as it invariably will be, may stimulate some unforeseen form of identification or resonance in the observer.

The spectator is therefore changed by the experience, and if we follow our previous reasonings, the object of the experience is redefined as well. For instance, will the 'me' who finishes writing this article be the same 'me' who began it? Definitely not - if for no other reason than that the brain is constantly rewiring itself, and I will have been changed, in the interim between the beginning and end of these paragraphs, by the interaction between myself and what is appearing on my computer screen. By the time you finish reading this piece you will no longer be exactly the same 'you' who began it either, partly due to the experience of having read it. Our exchange through the medium of this little instruction book will have somewhat redefined us both. So, don't attempt to 'reread' it expecting exactly the same experience, because we, and therefore it, will no longer be the same. The river flows on and on, and never repeats itself.

The Videola experience seems to have been so complex, unique, and undefinable to the thinking strata of the mind, that it appears to have bypassed that level of consciousness for most spectators, and resulted in something rather hypnotic. As many visitors had described it, the Videola experience was like a form of



meditation in which one might descend to serene depths of the psyche not usually accessible to cognition. While there, some were able to find previously undiscovered aspects of themselves, or some new insights into life. They had, thereby, undergone a consciousness change - which is the effect meditation is intended to have.

I'll cite just two instances: at the end of one particular day of exhibition a young man emerged from the gallery after watching a particularly meditative piece entitled *Rhada Govinda*, and sought me out to say reverently (almost in awe), "I don't know what you did in there, but it has changed my life." And earlier, during the period of construction, one of the directors of the National Center had exclaimed, on seeing the full-sized Videola in action for the first time, "My God! Its like watching the inside of your own brain!"

The Possible Metaphysics of the Videola:

And so we come to what may be the most profound meanings of the Videola experience. It has been speculated that, in the very deepest psyche, things circular and things spherical symbolize and call up feelings of wholeness. They are the simplest forms of what is known as the *mandala* (which, in Sanskrit, is defined as 'circle' or 'completeness,' and often implies the concept of perfection). Mandalic imagery appears in virtually every culture throughout human history and is abundant in the natural world. Psychoanalyst Carl Jung would often have his patients draw mandalas because he felt that the resulting art work would reveal more of the patient's deep psyche than words describing thoughts and feelings could convey (see Jung's *Man and his symbols*). The mandala has come to refer to any image or design that suggests the cosmic, metaphysically or symbolically.

Typical of mandalic imagery is a center (or sometimes several centers), either implied, or specifically stated. A concentricity is also shown or implied. And mandalas most often display some form of symmetry, ranging from the simplest mirroring to multiple axes yielding highly complex graphic formations.

At the left are some examples of mandalic images. They may help to remind you of the frequency with which such imagery appears in life. From the top down we have: possibly the world's best known mandala, the Chinese Yin/Yang symbol which, in Taoist philosophy, represents all positive and negative, light and dark, female and male, universal factors in perfect balance, mixtures of which comprise all phenomena in the cosmos. Next is *Hunab Ku*, a Mezo-American design depicting the the 'Center of the Galaxy'. Below that, the Mayan Calendar; a Buddhist mandala representing Shambhala, a mythic heavenly kingdom on earth; Leonardo DaVinci's *Vitruvian* (sometimes called 'cosmic') *Man*; the rings of a tree, suggesting the patience of evolution, like the expanding concentric ripples made by a raindrop falling into a still pond; a flower (multiple axes); a computer generated kaleidoscopic Mandala; and finally, one of the multiple centers of symmetry seen in the Videola.

Mandalas are quite commonly employed as objects of concentration in many meditative sects. They can remind us of our own spiritual center, and seem to contribute to an energized, centered, peaceful and introspective feeling. For these reasons, mandalic images are frequently used as holy symbols - in Islam, Hinduism, and Buddhism, as well as many of what we condescendingly refer to as 'primitive' cultures, philosophies and faiths.

It may just be that the Videola's slowly evolving, multiply centered imagery, presented in a spherical shape, and accompanied by sound exhibiting a long, patient developmental curve, induce in an animated audio-visual form, the mandalic effects just described. It seems very likely, based on the popularity of the exhibit, and the visitor feedback received.

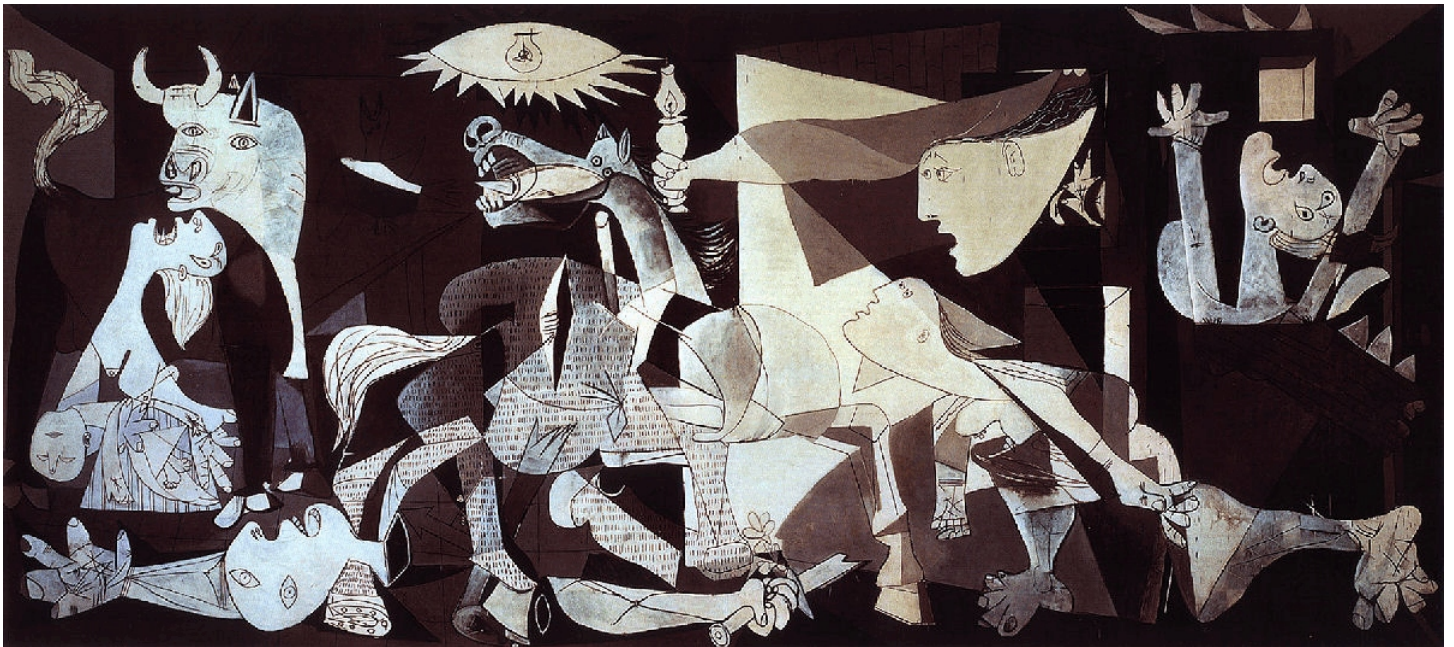
Many people returned over and over again to experience the Videola. It turned out to be one of the most popular exhibits in the San Francisco Museum's history. Some visitors

constructed smaller versions and attached them to their home television sets, while one extreme enthusiast wanted to manufacture miniatures for personal use and to place in taverns (which definitely would never have been tolerated in such places). But viewing conventional television through a Videola was really more for the novelty, and not at all a good match. By this I mean that the 'feel' of the program content was very important, and the best material lent itself to a meditative atmosphere. All the works shown followed a rather long arc in time, and were mostly not punctuated by abrupt change. The audio tracks, even when a bit tumultuous (sometimes music, sometimes odd sounds, and sometimes dialogue just a little too muffled to be understood), also generally followed a slow un-insistent pacing. The total impression, then, was of works so restrained and patient that they would never be acceptable in the frenetic world of conventional media - even in those days, and even when compared with most other video art. Incidentally, this intentionally languorous modus operandi became known in other parts of the country and the world as 'the NCET style.'

Some of the Videola works were thematic, while others were purely abstract, but that didn't seem to matter to those who came. Being in the Videola gallery was to experience a world of unusual quietude; a time to be comfortably at home among one's thoughts and feelings, with no one clamoring to have your attention. It seems to have been an experience of a kind of serenity rare in life under 'normal' circumstances, with a group of companions enjoying the same sampling of how life 'could feel,' given the right conditions. Return visitors remarked repeatedly on the exhibit's rather unearthly beauty, how their experience deepened with each visit, the feeling of complete safety, and the peaceful sense of deep transformation and 'oneness' they found in the Videola showings. No one, to my knowledge, ever emerged from the gallery saying, "I found it really boring."

Revelations: (Where the Videola stood/stands in the world - not the history - of art):

Where should we start? Possibly a digression into the function of art would help. In a broad overview it would appear that virtually all art, no matter what its apparent content, is the business of searching out the elegant, inner state of balance underlying the seeming asymmetries of existence. Abstract Expressionist visual art might serve as a particularly good example here, having emerged, as it did, at a time when the human world seemed grotesquely out of harmony, veering in and out of an ever deepening state of disastrous and grisly chaos - badly out of touch with its own center. Taken en masse, artists of the abstract style often seemed disturbingly intent on portraying the pain and turbulence of the world at that time. But could their works actually have been an attempt on their part to seduce humanity away from its craziness? I believe so. (Picasso's *Guernica* was clearly a scream of pain and outrage in the face of insanity, was it not?)



Pablo Picasso - *Guernica*, 1937

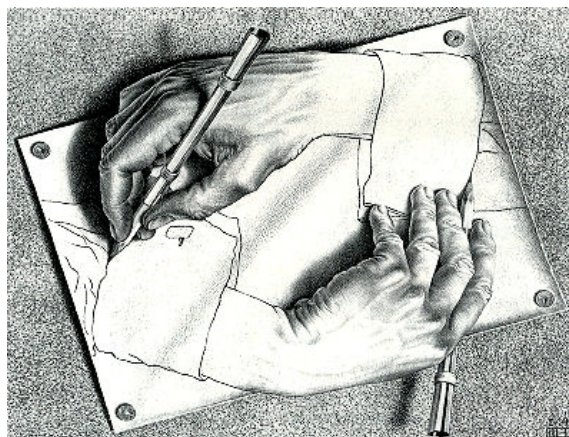
Meanwhile, others of the abstract movement clearly strove to imply a numinous, visually silent presence of awe, and the experience of serenity for which the world yearned during the agony of that period. (Mark Rothko's mature canvases probably stand at the summit of that school.)



Mark Rothko - *Yellow, Red and Red*, 1954

For decades, abstract art was rejected by much of the public, since it seemed to be the epitome of imbalance, intentional obscurantism, rampant chaos and just plain sloppiness. Abstraction, largely devoid of simple, representational statements (even in titling), made it necessary for spectators to bring much more of themselves than usual to the encounter. Though few will admit it, most people feel uncomfortably naked, even fearful, when they lack a ready explanation, or intellectual prejudice, to protect themselves against engaging the inscrutable. When that encounter has involved abstract art, typically overheard dismissals such as, "My three year old daughter could do that..." actually constitute an attempt on the part of the spectator to excuse themselves from a genuine and intimate involvement with a puzzling canvas or sculpture. (Actually, in San Francisco in the 1970s, we didn't have much difficulty with that problem due to the wide spread climate of self exploration which was rapidly growing on the west coast then. Even the plainly paradoxical, and to the general public a bit perplexing, like the lithography of M. C. Escher, was being enthusiastically accepted.)

On left: M. C. Escher - *Drawing Hands*, 1948



On right: *Hand with Reflecting Sphere*, 1935



But on closer inspection, and with time, the various abstract styles came into wider acceptance. Their public audience began to perceive the often elusive states of balance and even playfulness in statements which seemed most random and disharmonious, as in a Franz Kline or a Jackson Pollock, for instance.



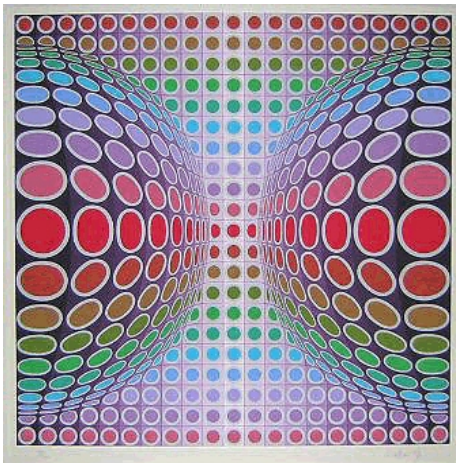
Franz Kline - *Untitled*, 1959



Jackson Pollock - detail from *Blue Poles*, 1952

Abstractionism was, thus, peculiarly appropriate for its era, as was the very popular symmetry of tie-dyed fabric during the agony of the Vietnam war. So, while considering the tenor of our own times, let us not forget that abstract art - the poetry of the oft-times apparently unpoetic - is still very much with us, and that tie-dyed items can still - after all this time - be found on clothing store racks.

Since we are speaking of discovering the hidden balances in art, though, let's ask for help from our rain drop falling into the pond. The wonderfully concentric wavelets generated feel to us like a flawless statement of symmetrical perfection, rather resembling formalist art (as in Vasarely's *Dyss*).



Victor Vasarely - *Dyss*



Victor Vasarely - *Algenib*, 1957

When they intersect the waves generated by many other drops, however, there is produced the appearance of chaos. Yet, there is perfect order in that 'chaotic' phenomenon. It is just too complex for the intellectual mind to decipher (as in *Algenib* above). Compare that with the wavelets which occur when asymmetrical objects (tree branches, maybe) fall into the pond. The random shapes of such objects create

asymmetrical wavelets, and their intersection produces a disquietingly erratic effect more closely resembling true chaos. Nonetheless, order is present here also. It is simply much more complicated and difficult to comprehend, like the highly unconventional balance of composition, color, form, size, texture and implied movement - the startling harmony of factors - found in the most outrageously abstract of expressionism.



Willem de Kooning - *Mauntau I*, 1969



Willem de Kooning - *Woman V*, 1952 - 55

Now, from the edge of our pond, we have a perfect opportunity to discover the secret to the appreciation of art - and most especially that art which you think you do not understand. You'd probably find that if you sit in a comfortable place, relax deeply and breathe naturally, then pick a focal point near the center of the pond and gaze at that one location, you can allow yourself to become aware of the full scope of your visual field. You will then begin to see, all at one time, the so-called 'interference patterns' as they expand and mix across the entire surface of the pond. Stay for a while in this act of pure perceiving and something unusual might begin to take place. You may experience yourself settling into a pleasant, trance-like state, a time-free serenity where that voice in your head has stopped asking, "What is it I am seeing?" "What is it I am hearing?" (That incessant questioning is the intellect 'missing the point' through its compulsive need to separate, compare and label.)

Then, simply affirm once or twice inwardly, "I see," "I hear," "I am." Surrender yourself to your 'witnessing' - the plain act of seeing/ hearing/feeling/sensing - and allow that to penetrate your whole being. The longer you hold that 'open-minded' pose, the more likely it will be that an awareness of your own presence as one with the whole interplay of nature at that moment will become felt. The entire dance may become mysteriously 'comprehensible,' not through the intellect, but deeper, at the levels of feeling and intuition (intuition being defined as 'attaining to direct knowledge or cognition without evident rational thought or inference').

If you find you can be successful at this little exercise, you will also find yourself in a somewhat 'enlightened' state. Here, wisdom and an unusual insight into relationships may begin to come. These are revelations that tell you what you really already know down deep, but have tended to forget and cover over with the trivial mind games of daily life. And if you happen to be looking at a work of art instead, you are also in a state close to that of the artist who managed to portray what was emerging by way of his or her own intuition, and then was able, through skill and dedication, to make tangible for you to share. To put it another way, contemplation of art in this manner is to partake of the intuition the artist had expressed in material form. As the painter Robert Motherwell declared in his famous statement on abstract art, partly based on Carl Jung's philosophical notion that there are primal archetypes common within us all, "Through pictures our passions touch."

Relaxing into this open and meditative state is the very best way to approach art of any kind. It is also

extremely handy, incidentally, to be able to attain for your own self-exploration, and for a clearer understanding of the rest of life as well. (And don't worry about returning to 'normal' - that will happen soon enough.) I have spent some considerable time with this explanation because it is important to understand that this is exactly what the Videola seems to have made possible for many in its audience; it progressively taught them to relax into that openly receptive, serene state of inner knowing and wisdom

Unfortunately, the human intellect is rarely able to appreciate the more subtle, indwelling order of life. It appears, therefore, to be the mission of most art to draw us into a deeper communion with ourselves, each other, and life in general; to coax us to more profound levels, both to remind us of our imperfections, and to alert us to the possibility that, at our deepest center, we are in fact knowing, wise and peaceful. It is at those levels we can understand that we are, by the forces of universal balance, always visited, sooner or later, by the results of our thoughts and actions. And so, if we really 'get the message' of art, we may begin to modify our beliefs and gradually bring into being the harmony we desire.

Given what we know of the history of art, the majority of its practitioners are, and seem to have been, pacifists, philosophers and social progressives. So it would seem that most art would have been produced through an innate urge to embody, encourage, or at least imply, a sane appreciation and realization of the balance and harmony beneath the surface of life. Whether these artists have been aware of it or not, they were and are contributing to the psychic health possible through an open, quiet mind, and of the sanity which peacefully resides at the center of life's oftentimes seemingly chaotic intersecting dimensions.

The human soul yearns for that peace. Do we really have to ask why the arts - including music, literature, cinema and video, theater and dance, architecture and the visual arts, etc. - are so popular that more money is spent in that realm than in the world of sports? Or why true artists, those seekers, seers and communicators of profound truths utilizing the inner as well as the outer eye, are typically persecuted by totalitarian regimes which prefer ignorant and closed minds to rule over? And is it any wonder why it is so often said in the defense of art and art education, that no civilization can thrive (remain healthy and vital) without the arts? A quick look at modern politics would suggest that any regime which attempts to devalue or destroy the arts seems doomed to drive itself into a state of self-destructive madness.

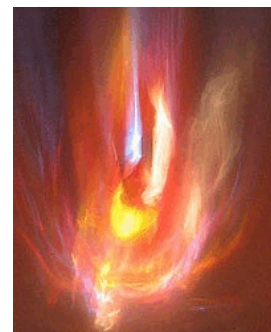
It is probably reasonable, then, to declare concisely that most art is the agent of balance and harmony; and that when truly successful, art is able to call attention to disorder and insanity, as well as to point the direction toward the indwelling order accessibly underlying all of life's conditions. Most art is intended, in one way or another, to produce a better world.

Where, then, does the Videola live in the world of art? Since it somewhat partakes of the asymmetry of abstractionism, as well as demonstrating the beauty of symmetry, it clearly lives somewhere between the two, though probably much closer to the latter. Since, like all abstract art (and much other art as well) it confronts its audience with the simultaneous experience of mystery (a healthy exercise) as well as clearly defined structure, it is obviously both abstract and formal in nature. Since, with the right content, it seems to encourage a peaceful, almost primordially harmonious, feeling of life's inherent balance, it is very likely closer to sacred art than to the 'profane.' And since it is technological, it is also 'modern.' Not a bad niche to inhabit, I think.

In this regard also, artistic homage is surely due to Thomas Wilfred, inventor of the "Clavilux Color Organ" (the Videola's progenitor) and its slowly unfolding "Lumia" light compositions (pictured below), which had a similar mesmerizing effect upon their audience.

On the left: Excerpt from Thomas Wilfred's *Study in Depth*, Opus 152. (wall sized light mural)

On the right: Two developmental stages (about 2 minutes apart) from the Clavilux Jr., 1930.



Finally, then, was the original Videola a genuine innovation, or just a clever but shallow trick? The answer would necessarily vary from spectator to spectator. The Videola was, though, as are all forms of communication (art again, in this case), an interactive device - a 'consciousness transforming instrument,' if you will. And apparently, the deeper the experience for many visitors, the more profound and powerful was the change.

Conclusion:

All this having been said, we have only briefly considered the art works shown through, made through, or made especially for, the Videola. I refer to both the creations of the past, and those possible by a video artist in some future Videola incarnation. The purpose of this (already rather expanded) set of instructions, militates against going further with that speculation, which would comprise a dauntingly extensive, if not impossible, subject matter in itself.

Beyond dealing extensively with the modification of experience, I believe that, all this philosophizing taken into account, the original Videola did have at least a somewhat redefining effect on the possible forms of 'video as art.' Not that the medium of video wasn't still present, but that the experiential effect of a Videola presentation was so unique that it could validly be considered to comprise a sub-form of its own. Stephen Beck, the brilliant electronics designer of what was probably the first real video synthesizer, thought so, and loved so much working through the Videola that, when the National Center was dissolved in 1975, he saved 8 of the mirrors from a KQED dumpster to keep and use (with my sincerest blessing).

The rest is only history - unless you decide to build a Videola for yourself, of course. In that case, I hope I have gotten all the specifications correct (after these almost 40 years, I strongly advise making a scale model to test the figures). And I wish you happy journeying through this fascinating form of 'videospace.' If nothing else, it's a great toy. (Hint: The next generation of Videola content, if there is one, will certainly be digital, and probably will include animated fractals.)

So here, in this document, are presented all the things you need to know to build, and properly operate within, a Videola environment. And no, I am not now the same person as I was when I began this article. I have learned much in the act of writing.

It is now appropriate to proceed to the harder facts....(And always remember: 'Just say YES! to art.')

Don Hallock: Honolulu, January, 2008



Anna Turner viewing the first Videola prototype, 1972.



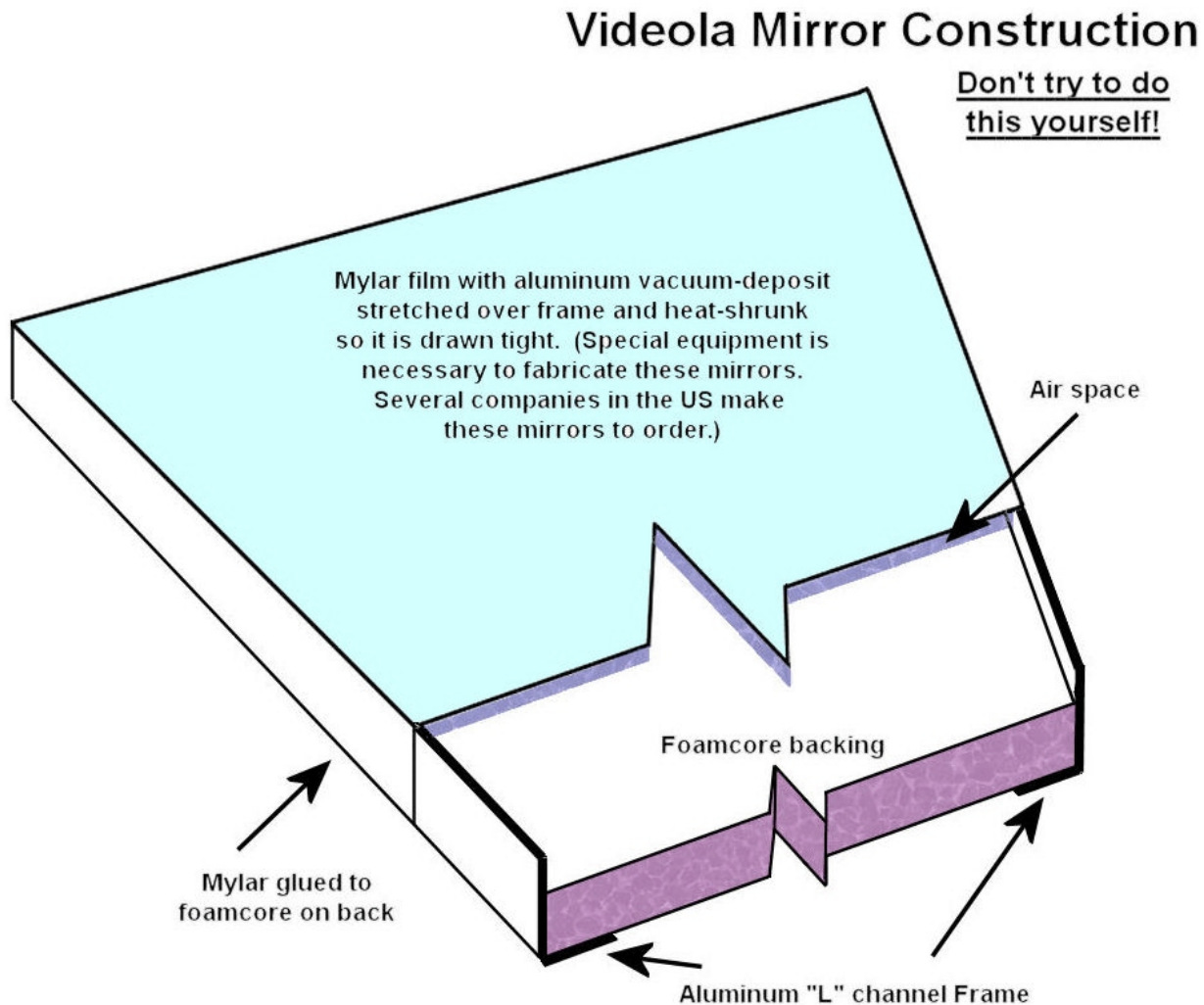
Full sized Videola in concert configuration, 1973.

VIDEOLA CONSTRUCTION INFORMATION:

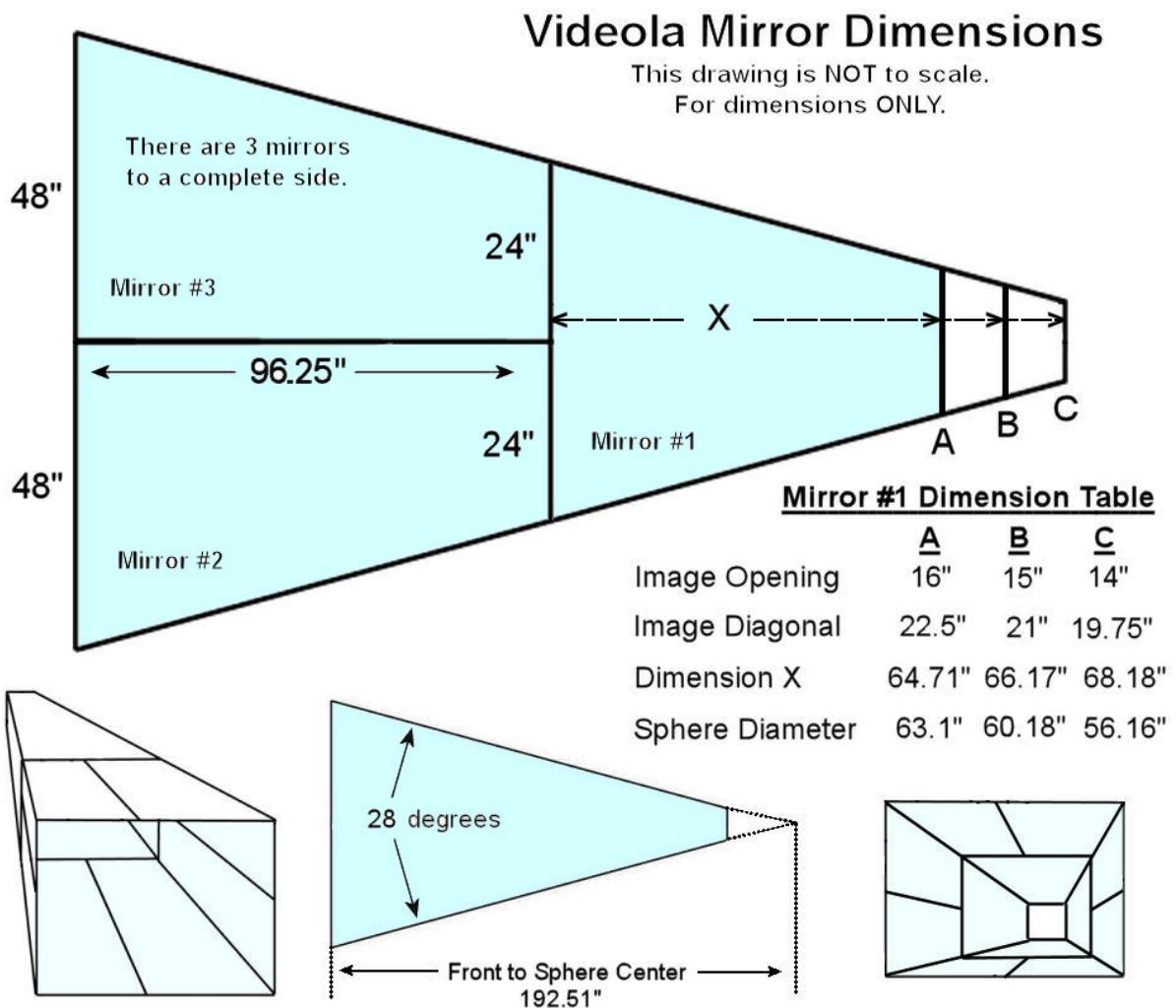
The next few pages consist of four diagrams and technical information necessary to construct a Videola very similar to the exhibition model. This design is a very slight departure from the original. I chose these changes to make the math easier to handle, but the differences in result should be negligible.

I have also included three options for the display opening (the small port at the rear), depending upon the display method you choose to use. Each option will produce a different sized sphere - progressing by steps from only slightly larger than the original, to significantly larger. Please note that the length of 'dimension X' as shown in diagram #2 will change along with the display opening to produce these different sized spheres. Other lengths and openings are possible if you're into doing the numbers, but, should you choose to make such changes, be very careful not to enlarge the sphere too greatly, as the viewers' sight-lines may become unacceptably compromised. In this case a larger sphere does not necessarily produce an improved viewing experience.

First, this is how the mirrors are fabricated (Diagram #1):



Next, here are the dimensions of the mirrors themselves (Diagram #2):



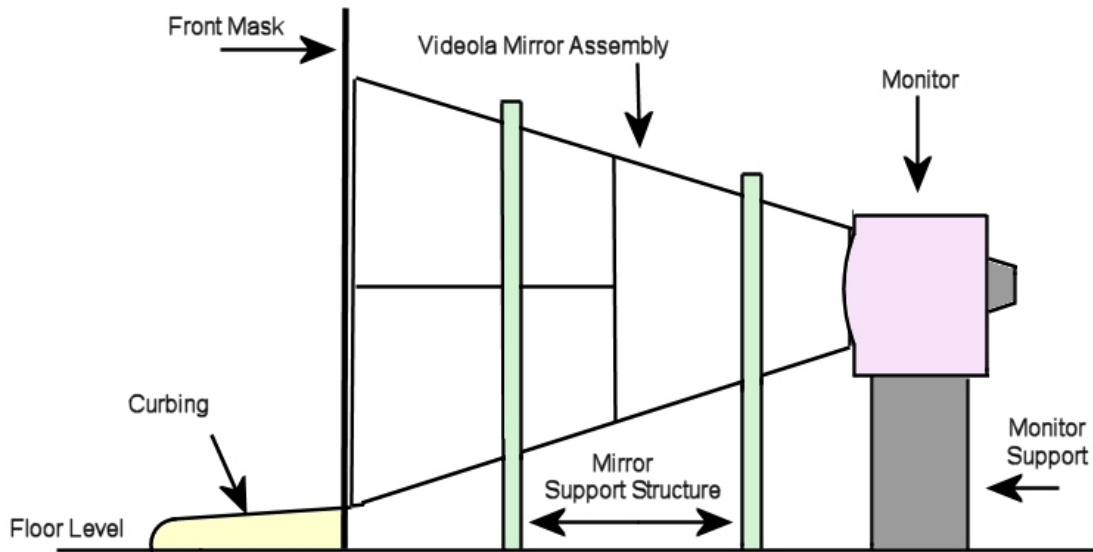
MIRROR DIMENSION NOTES: Though I have done my best to insure that the dimensions given are accurate, I strongly suggest that a reduced size scale model be constructed, and lined with mirror acetate (available from most plastics suppliers), to verify the appearance and measurements before undertaking the full sized version.

I have noted the dimensions in inches to 2 decimal places simply for the sake of mathematical precision. But for convenience, I suggest that you round the numbers to the nearest 1/4 inch (xx.25 = 1/4"; xx.5 = 1/2"; xx.75 = 3/4"). This will be perfectly safe to do, as it will not incur any noticeable errors.

So, before you do anything else, settle on your choice of a display device, because the rest of the structure will evolve around this foundation. If it is a cathode ray tube (CRT) monitor be sure the screen is convexly curved. Then measure the screen diagonal and the subtract 3" to allow for the thickness of the mirrors (which is a little more than an inch). Convex monitors of these sizes are becoming difficult to find, and a flat screen monitor - definitely not recommended! - will give the appearance of a polyhedron rather than a sphere.

If a convex CRT monitor with the proper diagonal screen size cannot be found, I recommend 'Miscellaneous Note #3' and diagram #4 shown below as a solution - and quite possibly as the best display altogether. If you do opt for the 'rear-screen projection' approach, remember that the image opening is square, and does not measure 3 by 4 units as a CRT monitor does. Then simply use one of the diagonal dimensions shown in the 'Mirror #1 Dimension Table' of diagram #2 above to size your screen.

And last, here are profile drawings showing the monitor display configuration (Diagram #3), the rear projection display method (Diagram #4), and further miscellaneous notes:



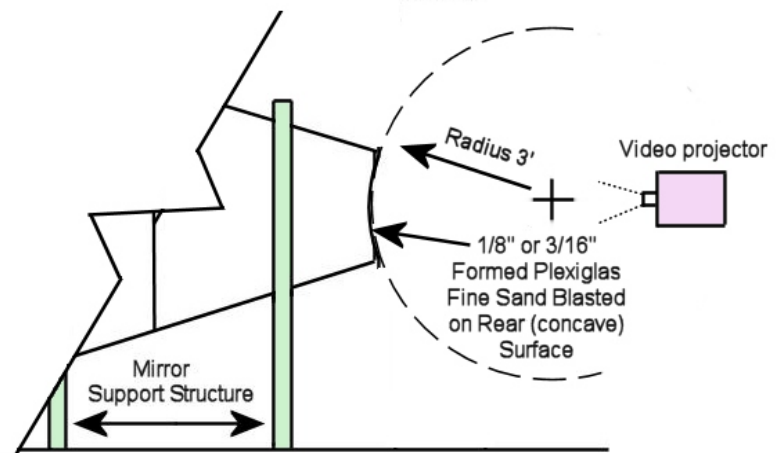
PROFILE DRAWINGS:

MISCELLANEOUS NOTES:

#1. The dimensions specified for the mirror sizes in diagram #2 will produce a full sized Videola - similar to the one exhibited at the San Francisco Museum of Art in 1973.

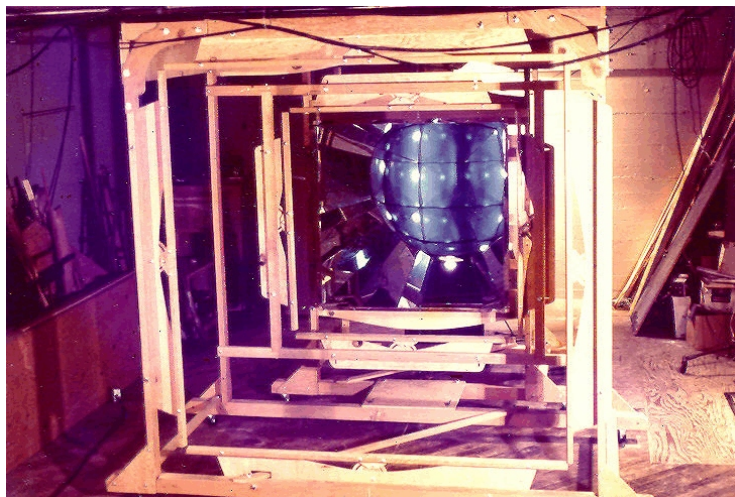
#2. The design and construction of the mirror support structure (diagram #3) would be dependent on whether the Videola is to be shown as a temporary or permanent exhibit (the original supporting framework was designed to be disassembled, moved and reassembled in another location). Any skilled carpenter should be able to devise a supporting structure which would be practical.

#3. Since it may be impossible these days to find a monitor with a convex screen measuring 28 inches on the diagonal, as is illustrated in diagram #3, a second alternative is suggested in diagram #4. This solution (which is more in keeping with current technology) involves creating a Plexiglas rear-projection screen to take the place of the monitor. Be sure to allow an extra 2 inches or so of Plexiglas on each edge of the screen for attaching it to the small end of the Videola. The Plexiglas would have to be molded in a curve with a radius matching $\frac{1}{2}$ the sphere diameter (as shown in diagram #2 / 'Mirror #1 Dimension Table'), and then fine sand blasted on the rear, or concave, surface. A video projector would then be used to show the images on the screen from behind. The image shown on the rear projection screen would be fairly small -and therefore probably quite bright - hopefully coming close to (if not exceeding) the level of illumination of the cathode ray tube monitor which was originally used. Finally, the projected image should be reversed left to right. Work may then be pre-taped or created live, directly through the Videola, as it was at the Berkeley Museum of Art. **AND DON'T FORGET: THE DISPLAY SURFACE - MONITOR OR REAR PROJECTION SCREEN - MUST FIT SNUGLY AGAINST THE BACK OF THE VIDEOLA CONE TO MINIMIZE UNSIGHTLY SEAMS.**

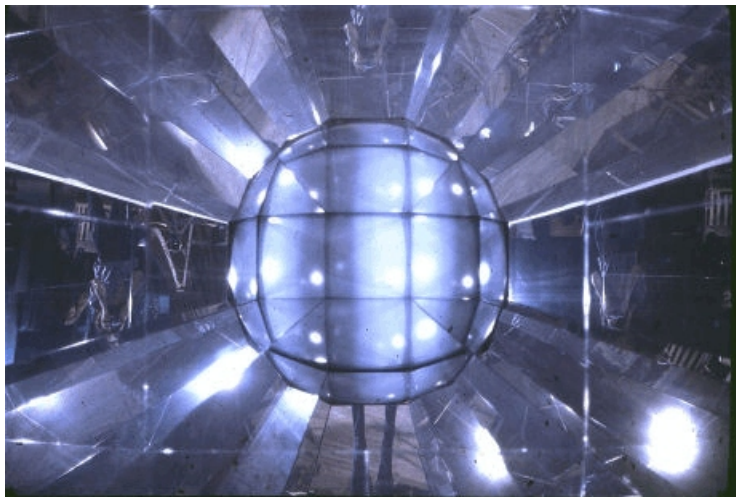


#4. If the Videola is planned as a permanent exhibit, the bottom mirror set would have to be lightly and carefully dusted about each week. Also, in San Francisco during the 6 week gallery showing, we found that spectators had a tendency to want to feel the mirrors to find out what they were made of - leaving unsightly fingerprints on the leading edge of the bottom and side mirrors. So we built a curbing (shown in diagram #3) about 4 feet deep and about 10 inches high so that visitors to the gallery could not approach close enough to touch the mirrors.

Videola During Construction

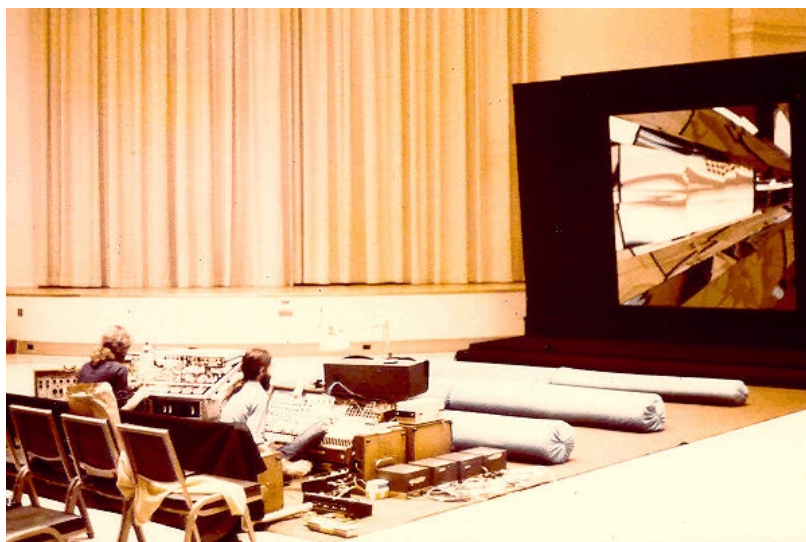


Videola support Structure (inner mirrors in place)



All Mirrors, and monitor, in Place

Videola Concert Photos



Stephen Beck and Don Hallock are shown here arranging equipment for a live Videola concert.

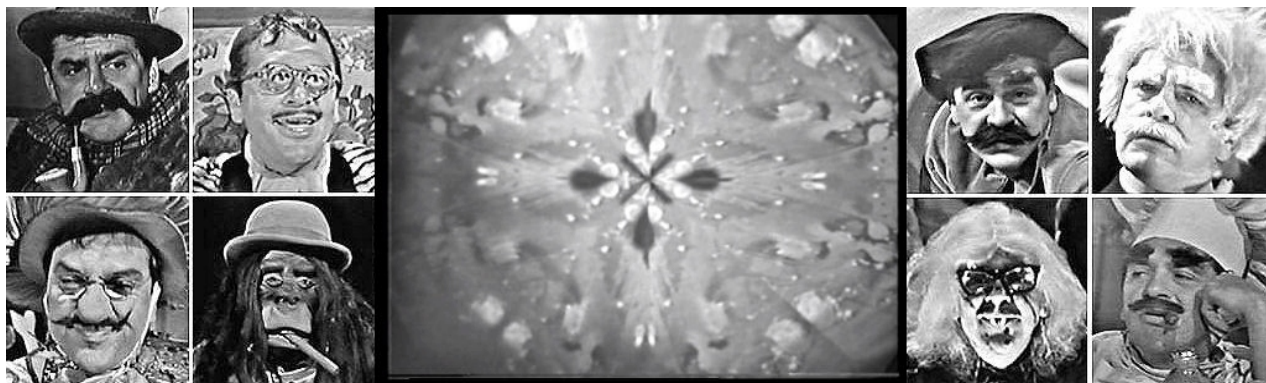
An Essential Remembrance

of Ernie Kovacs

(January 23, 1919 - January 13, 1962)



As an artist formerly working in the video medium, I couldn't call this essay complete without expressing my gratitude to the first of our breed - the 'video artist.' When he is remembered, Ernie Kovacs is recalled primarily for his comic genius, his brilliant and insightful writing (he penned and directed all his own material) and the many hilarious characters and sketches he invented. Those of you who are old enough will be able to identify here the poet Percy Dovetonsils and the chimpanzee leader of the Nairobi Trio, among others.



Ernie "...saw laughter as a means of survival, and created a television of the absurd as a video fallout shelter."

Edie Adams (Mrs. Ernie Kovacs)

Ernie is less noted, though, for the fact that he was the very first to use the video medium as an art form. He breached the commercial TV monolith of the 1950s and early '60s with a unique, iconoclastic, erudite and inventive (in)sanity. Ernie devised unprecedented experimental pieces for television a good fifteen years ahead of the rest of us (who have also yearned to see our work broadcast). He used kaleidoscopes and other devices to modify the television image. He loved to mount outrageously expressionist segments, but also created gentle impressionist pieces, such as the one following the life of a raindrop in its descent from the clouds all the way to the ocean (and this, mind you, only in black and white). Ernie did things no one else in television thought of, or dared try. He was so far ahead of his time that when we johnny-come-latelies had finally gotten our vision and our facilities together, he had been largely forgotten for the artistic visionary he was.



The evolution of mass consciousness is a cumulative phenomenon. Therefore, as artists, we dare not forget that the acceptance of our work rests on the shoulders of those who came before us, and broke ground for our own innovations. This is true even when it relates to our neglected forebears. I, and many of my generation, who are or have been video experimenters and scholars, received much precious early inspiration directly from the work of Ernie Kovacs.

Ernie nailed it when he remarked, "Television is often called a medium because it's so rarely well done." Thanks, Ernie, for your pioneering efforts in showing those of us who came later how meaningful and aesthetically satisfying the video medium could be.